THE

HORTICULTURIST.

VOL. XXI.....JULY, 1866.....NO. CCXLI.

TREES IN ASSEMBLAGES.

BY A. D. G.

By nature, trees are eminently social: human art alone separates them. When Columbus first touched these shores, he found no lawn trees, parks or avenues; no groves, even. It was all one wide stretching forest; except, it may be, where the Indian's rude axe or the fire had made here and there a clearing.

But nature does not always do things in the best way: a hint, now and then, from art helps her amazingly. In my friend's pleasure-ground, yonder, is a model specimen of the Norway Spruce, fifty feet high. Its lower branches rest gracefully upon the lawn; thence midway and up to the apex, the limbs extend outward in unbroken whorls; the foliage hanging from them like tresses, and swaying in the wind; near the top are multitudes of bronzy cones, contrasting finely with the deep green of the leaves; and the whole tree from the ground to its highest point forms a symmetrical pyramid of waving verdure. Now, if nature had had her own way with this tree, she would have set it with a multitude of shrubs on some cold, Norwegian mountain, where, though it might have made good ship timber, its lower branches would have been killed out by the shade of the surrounding forest, and its beauty entirely destroyed. What say you also, of yonder Elm, standing alone in the meadow, with its colossal trunk so strongly buttressed at the base, then tapering as it rises, until it spreads out and supports a leafy dome, so light, symmetrical and graceful as perfectly to satisfy the eye with its grand beauty. You don't find such trees in a primitive forest.

Exceptions of this sort being borne in mind, let us consider trees socially related. The young artist in composing his landscape is apt to set his trees one by one at regular distances on the canvas, like soldiers on parade. Experience teaches him to group them. And the young landscape-gardener is apt to dot his ground over with trees and shrubs the same distance apart, and perhaps

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in parallel rows; but after more study and observation he finds that a better result can be attained by disposing some of them in irregular groups and masses. There are cases, indeed, where trees should be set in rows and at regular intervals; as, for instance, by the side of streets, and in broad avenues in public parks. Whoever has walked under the elms on Church street, New Haven, that long, Gothic aisle, with natural columns, vaulted roof and twilight shade beneath, will not speak lightly of such artificial planting. Yet cases like this are the exception, and the rule prevails in favor of some degree of irregularity.

Along yonder fence-row, several maples have sprung up within a few feet of each other and as they have grown from year to year, they have formed a large, rounded mass of luxuriant foliage. Being a little crowded as they grow, their trunks are thrown somewhat out of the perpendicular, but they have locked arms above, and present to the eye one vast symmetrical ball of richest verdure. In the field beyond, nature shows a more sportive mood. A scarlet maple has sprung up by the side of a rock maple, and close by is a white ash; in the rear towers a white-armed buttonwood. Here is little or no symmetry of outline, or uniformity of color, but the effect is striking in summer, and in autumn it is grandly beautiful. One of the most pleasing combinations, whether natural or artificial, is seen when a group of round-headed trees is over topped by one or more spiry trees, like the poplar, larch or fir.

Nature does some of her finest works on the banks of rivers and lakes, where the trees shoot out with great irregularity; some hanging over the water, perhaps trailing their branches in it; others throwing their arms abroad horizontally or aloft, with ever-varying form and color of branch and leaf. If one would learn the beauty there often is in simple lines, let him study the trunks and limbs of these trees; the roots perhaps a little undermined by the water; the branches crowded forward by trees behind, and bending outward over the stream to get more light and freedom, yet again ascending to maintain the balance of the structure. On hill sides and rocky precipices, trees often assume bold and picturesque forms. If they could be transplanted bodily into a smooth lawn, they would be scouted at as coarse and scraggy, and fit only for the axe and fire, but standing where nature has reared them, they possess the highest charm. They are the trees most beloved by painters and poets.

Few natural scenes are more unpleasant than a recent clearing in a dense forest, palisaded with tall, gaunt trees, and standing perpendicularly with here and there one leaning and threatening to fall, with no side branches to hide their nakedness, or to conceal the wild undergrowth behind them. The second growth of timber presents us the most handsome woods, where, the trees grow up with some degree of uniformity; those on the outside of the woods especially being well developed, billowy and graceful. Each tree follows its own law of growth, giving variety in outline, branches and spray, while all together form a pleasing, harmoneous scene. "It is curious to see," says Gilpin, "with what richness of invention, if I may so speak, Nature mixes and intermixes her trees, and shapes them into such a wonderful variety of groups and beautiful forms. Art may admire and attempt to plant and to form combinations like hers; but whoever observes the wild combinations of a forest, and compares them with the attempts of Art, has little taste, if he do not acknowledge with astonishment the superiority of Nature's workmanship."

However pleasing scattered masses of wood may be, vast, unbroken forests are monotonous and gloomy. Nature, to be most attractive, must be associated in some way with human life and art. Hence it is that a woodman's cottage with its curling smoke, or a fisherman's boat on a secluded lake, gives a wild forest picture a tender, human interest and a tinge of romance.

Trees exhibit themselves best, socially, in the autumn. During the summer they hold their powers in some reserve. But when October comes, they put on their holiday attire; they gather up all the rainbows of the vernal year and twine them about their brows; they dress themselves in all the tints of sunset, and then call upon man and nature to admire.

But, leaving the domain of beauty and poetry, let us look at trees as scientifically related The natural philosopher may not be wholly wanting in æsthetic feeling, yet he finds a peculiar pleasure in grouping trees together botanically. Who will say, too, that his heart does not somewhat inspire his scientific zeal to bring together the scattered members of each household, and so to "set the solitary in families"? But whatever the motive, it is in this way that arboretums have been established, where we find trees of different orders, species and varieties collected from all parts of the world, and classified more or less in a scientific manner.

The best arboretums of which the writer has any knowledge, are those of Chiswick and Chatsworth, England. The latter has a world-wide reputation. It embraces forty or more acres, and contains upwards of two thousand species and varieties. The trees, shrubs and plants are set near the margin of the carriage-road, which winds through the premises. They are set far enough apart to allow their full development, and to admit of the subsequent introduction of other newly discovered specimens. Being classified in families, it affords an interesting study to seek out the relationship where the external resemblance is often very slight. The name of every tree and plant is marked on a wooden label, the letters being so large, and distinctly painted as to be read at ten yards' distance. Each tree is marked with its scientific name, its common English name, its native country, the year of its introduction, and the height which it attains at maturity.

These trees and shrubs, it will be remembered, are those only which are hardy in Great Britain, and of course many important species have to be left out. This great assemblage of rare vegetation has not cost the Duke of Devonshire, (the owner of the property,) a sixpence. The ground was prepared, the trees bought, and all the other expenses paid from the proceeds of the timber trees with which the domain was originally covered, and which were removed and sold only as fast as the room was wanted for planting. This fact indicates either that this timber was of remarkable quality, or that the price of lumber is much higher around Chatsworth than in our own country.

As this public ground is centrally situated, and is generously thrown open to all visitors, its influence must be salutary and wide-spread. Many a person imbibes here his first love of rural pursuits. Many a visitor is surprised to learn of the great variety of trees and plants which have been brought into cultivation. The day seldom passes when botanists or amateurs or nurserymen may not be seen here, examining the trees and making notes in their memorandum-books, for use elsewhere. As the late Mr. Downing said, when visiting it, "The most perfect novice in trees can thus, by walking round the arboretum, obtain in a short time much knowledge of the hardy Sylva; while the arboriculturist can solve many a knotty point by looking at the trees and plants, which no amount of study, without the living specimen, would settle."

We are happy to know that some of our leading nurserymen in this country are establishing arboretums of considerable extent. On some of the older estates along the Hudson, and around Boston, Philadelphia and Baltimore, valuable collections are being made, which are interesting as objects of curiosity, and not altogether lacking in beauty. And, not least in importance, several of our first colleges have begun the work of gathering into their grounds specimens of all the trees, shrubs and plants which are hardy in their respective climates. May these good works go forward to their completion.

DESIGNS IN RURAL ARCHITECTURE.—No. 15.

BY GEO. E. HARNEY, COLD SPRING, N. Y.

Our design for this month represents a porter's lodge, built about a year ago by Mr. F. P. James, and situated near the gates at the entrance to his country place in Cold Spring.

It is constructed of rough stone, quarried in the immediate vicinity, laid in its natural bed, and pointed up afterwards with light-colored mortar, and—though we object to the use of this light mortar, preferring the softer tint of the dark—the effect of the whole is very good, the bright green foliage of the trees, by which it is nearly hidden, contrasting well with the dark gray tone of the stone.

Its walls are low, and its roof projecting boldly, covered with slates cut in an ornamental pattern. The tower, which is the

Fig. 81.—*Perspective.*

principal feature of the exterior, rises from the angle of the front nearest the public road, and contains the stairways to the chamber and cellar.

The plan shows four apartments on the principal floor, as follows:—

The hall is approached by two or three steps, leading to a wide porch, covered with a broadly projecting hood, supported on heavy brackets. This hood is, in fact, a continuation of the roof of the main house beyond the eaves, as is also the roof of the bay window on the adjoining side.

The staircase in the tower is on the right of the front door, and is separated by an archway from the hall.

The room on the left, containing the bay window, is the living room, and measures 11 feet 6 inches by thirteen feet. It opens into a room 15 feet by 11 feet 6 inches, and is used as a kitchen. The other room is a bedroom, and measures 8 feet

by 9 feet. The kitchen has a door communicating with the yard in the rear.

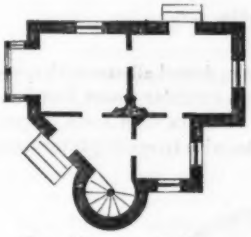

FIG. 82.—*Ground Plan.*

The chimney is in the centre of the house, and one stack of three flues answers for all the rooms.

There are ventilators on the roof, and a dormer window to light the attic, which has one room finished off for a sleeping-room. All the principal windows are glazed with diamond-shaped panes of glass.

There is a cellar under the whole house, containing bins for coal, store closets, &c., &c

PLAN FOR LAYING OUT A THREE-ACRE LOT.

BY E. FERRAND, DETROIT, MICH.

THIS garden has the appearance of a much larger place than it really is; in fact, the plan could be applied to a place of ten or more acres just as well as to the limited space of three. The roads are numerous; it is intended for a lot in the proximate vicinity of the city, and to be occupied by a man who has means to keep it in order; this also applies to the drawing for a five-acre lot, to be given hereafter.

All these gardens are intended for the same purpose, and laid out according to the same principle; that is to say, the most is done to conceal their narrow limits, and leave one to guess how far one may be from the end of it when one is no more than ten feet from the well-concealed fence; at the same time, all the secondary buildings, such as barns, stables, &c., are very close to the main house, though they are entirely out of sight.

In the plan, smoothly-curved walks are drawn in the thickets of large trees; there is also a vine harbor, which is a handsome ornament. The kitchen garden occupies about 1¼ acre, and is in proportion to the whole extent of the place.

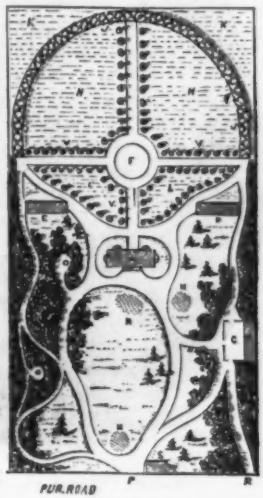

FIG. 83.—*Plan.*

REFERENCES.

A Dwelling-House.
B Stable, Barn, &c.
C Barn-Yard, with Three Openings.
D Granery.
E Greenhouse.
F Water.
H Kitchen Garden.
J Grapevine Harbor.
K Place for Small Fruits.
L Strawberries.
N Flower Beds.
O Places for Rustic Seats.
P Principal Entrance.
R Entrance to the Barn.
S Gardener's House.
V Dwarf Fruit Trees.

"HEBE" PEAR.

BY WM. SUMNER, POMARIA, S. C.

HEBE PEAR.—Fruit large; specimens have frequently weighed 28 ounces. Six of fair size of this pear generally weigh eight pounds. Color, lemon-yellow, inclined to greenish; dotted all over with russet specks and deep irregular russet blotches. Stem, short, thick, in deep basin. Form, round, obovate, with irregular protuberances, similar to the Duchesse d'Angouleme. Flesh, sprightly, melting, buttery, with slight vinous flavor; has no matured seeds, and seldom forms seeds at all. Ripens in South Carolina in December. Tree vigorous, with finely matured wood, free from thorns. Shape, naturally pyramidal.

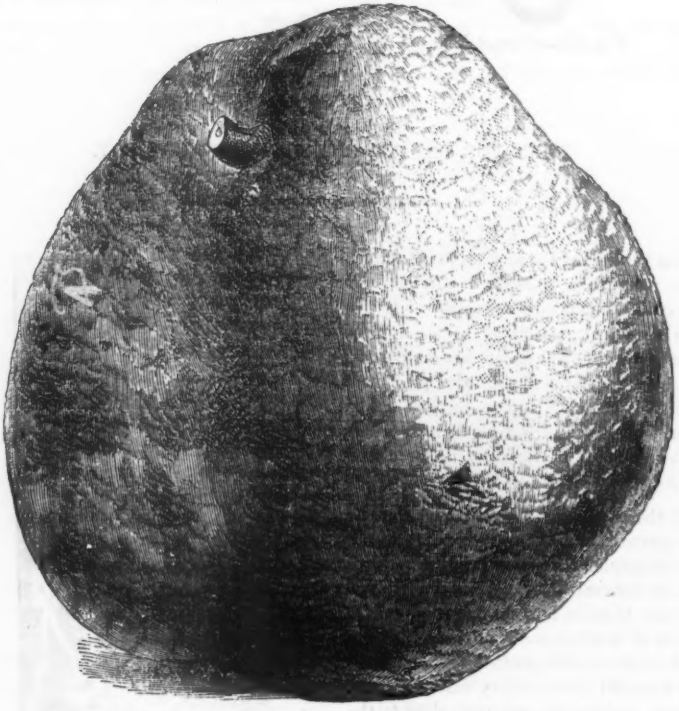

FIG. 84.—*Hebe Pear.*

THE CANKER WORM.

BY COL. D. S. DEWEY, HARTFORD, CONN.

"*Quien Sabe?*" — that is it exactly—'Who knows" a preventive or cure for the periodical and pestiferous attacks of the canker worm? *Do you?* If so, have you not hid your light under a bushel? If not, then are we all equally in the dark.

Here now are my fifteen volumes of the HORTICULTURIST,—'51 to '65 inclusive—and not one word of caution or advice on the subject. If science and experience were not somewhat at fault this blank might have been filled. Direct information would have been of incalculable service; and even negative statements would have been of great value.

Can any one,—will any one,—now furnish a positive and perfectly reliable prescription for the prevention of the ravages of this cankerpest, which has been such a scourge to certain portions of the country for the past two or three years?

I venture to offer, in advance, a supplementary summary of negative testimony on the subject;—a reference to certain proposed remedial measures, all of which, I think, and most of which I know, will not and can not be effectually used in the case: that is, without much more than the ordinary, and even extraordinary care which any pomologist can afford to give, or can be reasonably expected to give, to such an orchard as I have in my mind's eye; say of from one hundred to two hundred thrifty twenty-years'-old apple, cherry, plum and quince trees.

Failing, as above stated, in my review of the volumes of the HORTICULTURIST, to find printed testimony, recourse was next had to parole evidence. The only knowledge thus attainable was that tar was *the* remedy. So, tar it was; and, for sixteen successive evenings, (commencing March 17th, 1865,) the application was faithfully made, upon some sixty choice apple trees Many neighbors followed suit; "any quantity" of grubs were caught; but the result uniformly showed a perfect waste of time and money.

(Mem. *Gas tar* was freely applied by some, directly upon the bark, without causing any apparent future injury to the tree, contrary to a generally received opinion.)

In one orchard of considerable extent, straw was scientifically arranged and tied around the trunks of the trees; in another, the soil around the collars, and for a considerable distance beyond, was up-turned in the fall, and left to the action of the frost; in another, tin collars, or capes, were nicely adjusted, some flat and some flaring; in others, lime, ashes, and other materials, were spread as a mulch, or piled up around the bodies, and so on;—*they all failed*, as did, also, even Seymour's and Allen's regularly patented tree-protectors.

Now, the prime question recurs, what shall we do next?

Mr. Seymour, (the protector-man, whose article was advertised in the HORTICULTURIST, last August,) tells me that he can improve upon this idea, and give us something, next fall, which will be "a surething." But his plan, (even if it could be warranted,) is rather too expensive for general adoption.

Mr. Allen, (another protector-man,) has shown me an improvement upon his arrangement, which, he asserts, is cheap and reliable. But ——

"Mr. Allen," said I, "how often is this oil to be applied to your patent tins?"

"Once a day will answer."

"*Once a day!* If that is so, why not use tar, which will remain sticky for at least twenty-four hours, and is comparatively inexpensive?"

I report, in brief, only the substance of our short coloquy; the fact is that the same plan has been tried by others, as well

as myself, and rejected, as involving too incessant attention.

For my own use I, also, compounded and applied a slow-drying varnish, which I thought was just the thing, but the punctured leaves of my cherry and apple trees prove its inefficiency.

Mr. Hovey tells us, in his May number, that canker worms "may all be destroyed by a thorough syringing with whale oil soap." My opinion is that farmers and orchardists can never be induced to purchase, and apply to such a use, the requisite syringes and soap; nor be made to think that they can spend their time in sudsing off the underside of each leaf on a hundred or more trees.

Neither do I think that they can be persuaded to box around the trunks of a hundred or more trees, and pack with sawdust, and arrange nicely-soldered oil-troughs to entrap the moths and larvæ, as recommended by some.

Neither have I full faith in the use of the murate of lime, so highly recommended by the *New England Farmer* of April 28th; but if any union of hydrogen and chlorine with a base from which carbonic acid has been expelled, will compose a material which will destroy insect existence, and, at the same time, increase vegetable vigor, it would seem that its application to soils filled with such noxious things as canker-worms should be made, by way of further trial.

Has any one in "our parish," tried it?"

This incomplete article,—intended more as a simple finger-post to warn off from the wrong way, (or to tell "what not to do,") rather than a correct guide-board to show the true way,—would be more incomplete without the addition of the following brief description of "the enemy," and some of his antecedents and surroundings.

We may find the first indication of the dreaded presence of the canker worm quite early in the fall, when forking up the soil under our fruit trees, for their dressing of manure or mulch. It is then made visible in the shape of a light brown chrysalis. (Fig. No. 85.) By the way, these are readily

FIG. 85.—*Crysalis.*

devoured by poultry, and I judge from my experience, last fall, that if I had but half a dozen choice trees to protect, I could do it quite effectually by carefully exposing the soil, (from three to four inches in depth) and breaking it up so that my hens could get at the chrysalides, and thus make away with them in their embryo state.

Its next appearance is in the form of the male miller, (Fig. No. 86,) and the female

FIG. 86.—*Male Moth.*

grub. The male, with the aid of its wings, can, of course, fly from the ground to any part of the tree; but the female is obliged to crawl up the trunk; and it is to prevent her ascent that the main efforts of the

FIG. 87.—*Female Moth.*

fruit-grower are to be directed; to entrap and destroy the vermin in this stage of its progress, if not previously destroyed while in its chrysalid condition. The precise time of its appearance may vary with the character of the season; its first occurrence last year was on the evening of March 15th, and its second, October 28th.

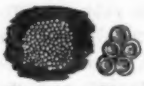

FIG. 88.—*Eggs.*

Meanwhile, we find it in the egg, (Fig. No. 88,) deposed, generally, in small clusters, in

the forks of the spray, but sometimes on other parts of trees; and even upon fences. and out-buildings.

Finally, we again recognize it in the shape of a tiny black worm, simultaneously developed with the first young foliage of spring. It rapidly increases in size until it appears to be full grown (Fig. No. 89) about the middle of June, when it descends to the ground, spinning down its spider-like web from the limbs, whose leaves and blossoms have been entirely consumed by it; leaving the tree with the appearance of having been scorched, as by fire.

FIG. 89.—*Canker Worm.*

HINTS ON TRANSPLANTING EVERGREENS.

BY CHAUTAUQUA.

THE warm summer months, now at hand, are the best time in the year for transplanting evergreen trees, and a few short hints on the subject may not be amiss. A large percentage of nursery-grown evergreens, and probably three-fourths of these trees taken from the forest, are killed outright in transplanting, simply on account of ignorance of the necessary precautions to be taken in their treatment at the time they are transplanted, and afterwards.

The principal thing to be observed is, *never to let the roots see the sun, or feel the wind*, long enough to lose their surface moisture. The reason for this is not agreed upon by all vegetable physiologists. Hon. John H. Klippart, so widely known in connection with Ohio agricultural matters, in a conversation on the subject, gave me, as his opinion, that the bark of the roots of evergreens, and many other plants, is as sensitive to light as are the chemicals of the photographist, and that the rays of sunlight, either direct or refracted, produced a chemical change in the bark, or vessels therein, injuring them to a greater or less extent.—In support of his theory, Mr. Klippart can certainly show some good evidences. Evergreens, and some wild flowers and plants from the woods, in his grounds at Columbus, Ohio, are much thriftier if transplanted *in the night!*

My own theory is, that if the sap in the roots, which is more or less resinous, is suffered to become even partially dried by the sun or wind, it (the sap) is rendered thicker, and becomes almost, or quite, indissoluble, choking up the vessels or ducts, and thus rendering the roots incapable of assimilating the necessary food for the growing tree from the surrounding soil.

Whatever the theory, the fact remains, that if the roots of evergreens are kept moist and shaded from the sun, these trees, are, as a class, more sure to grow when transplanted than any other living plants, except some weeds.

Furthermore, if possible, get the evergreens from a good nurseryman, who is a good propagator, and, if to be shipped to any distance, who will pack the trees so that the roots will keep moist, and the foliage and branches cool and dry. Nursery-grown trees are already prepared as to their roots for transplanting, many or all the rootlets remaining on the roots, while trees from the forest unavoidably lose nearly or quite all the rootlets, unless the trees are very small when transplanted.

As to the time of year, from the first of May to the end of August is as good as any time, provided always that the roots are kept covered and moist. I have taken hemlock from the woods in August with better success than in April or May. They seem to do better when the sap is in motion than before or after.

Lastly, set out plenty, and you will get the benefit, and also the thanks of the next generation.

E. W. BULL ON GRAPE CULTURE.

BY J. M. MERRICK, JR., WALPOLE, MASS.

The *Massachusetts Ploughman* is publishing a series of short, practical papers on the open air cultivation of the grape, written by the Hon. E. W. Bull, of Concord, Mass., the originator of the Concord Grape, and a cultivator of the vine, whose experience and success have given him a very honorable position among the horticulturists of this country.

The solid basis of fact and experience on which Mr. Bull's papers are founded, and the general soundness of his views, make me think that a brief *resumé* of these Essays, with such criticisms as may not seem impertinent or presumptuous, will be acceptable to the numerous readers of the HORTICULTURIST, and I therefore ask leave to present a sketch of the learned Vigneron's remarks, with a word of comment of my own.

In his first paper, Mr. Bull discusses the question whether grape growing is profitable or not, and answers it in the affirmative. He says, "the Concord is the only grape I cultivate on a large scale, and that for *sixteen* years has not failed to give me a remunerating crop.

One acre of well-established, healthy vines, will give about seven tons of grapes, worth at wholesale, on the average of the last four *years*, fourteen cents per pound, or about 2,000 dollars. This amount, large as it is, has been exceeded in many cases, but if you reduce the result one-half, you still have one of the most profitable crops known to our husbandry." (I may say in parenthesis, that two of the largest grape-growers in this State tell me that they make $1,200 per acre per annum with the Concord.)

"At present, and indeed for a long time to come, the market price of the fruit will be so high as to prevent the making of wine to very great extent; but whenever the crop of fruit becomes so abundant that the price declines, wine will be made in large quantities, and its manufacture will be found more profitable than selling the fruit.

No other farm crop requires so little of the farmers ready capital, manure, as the grape.

I have vines which give me annual crops of one hundred and twenty pounds each, and which have had no manure for ten years. I have no occasion to give the Concord any manures except a dressing, once in three years, of twenty bushels of bone-dust, twenty bushels of unleached wood ashes, and five bushels of plaster of Paris to the acre, spread broadcast and harrowed in."

I believe that we are gradually reaching a more rational view of the wants and requirements of the grape, and that Mr. Bull is right in what he says about manures. For vines that are to bring money into the owner's pocket, the days of deep trenching and high manuring are past and gone. Certain kinds of grapes, as the Iona and the Delaware need a rich soil and the highest possible cultivation, and this is a great pity, for if the Iona had the freedom of growth and vigor of the Concord, we should not have much further to go to find the perfect grape.

A vine that requires constant attention and petting, and a considerable annual outlay for manure, can hardly be cultivated with profit on a large scale.

I have seen the vines of which Mr. Bull speaks, in full bearing, and can testify to their splendid appearance, vigor, and capacity to produce loads of fruit. They had had no manure for ten years, but their owner proposed to give them a slight dressing of ashes the present season.

Mr. Bull advises planting vines in rows running north and south; the rows being ten feet apart, and the vines six feet apart in the row. This gives sixty square feet to

a vine, and facilitates working with a horse and cart in the vineyard.

The following is the estimate of the cost of planting an acre:—

726 vines, at $25 per 100.....	181 50
40 loads compost.....	40 00
Ploughing.....	6 00
Carting and cross-ploughing.....	3 00
726 poles at 1ct.....	7 26
Planting, two men, ten days.....	30 00
	267 76

There will be a difference in the cost in various localities, but the above is a fair average. Mr. Bull, we presume plants two year old vines, judging from the price he gives, for first class one-year old Concords can be bought for ninety dollars per thousand.

The forty loads of light compost is to promote the formation of roots the first year, and the application of the compost is not to be repeated.

Mr. Bull's second paper is devoted to the operation of planting, and we quote the substance of it, condensing a little here and there for the sake of brevity:

"Having prepared the ground for planting, open a furrow on each side of the line on which the grapes are to be placed, and two feet from it, turning the earth towards the middle of the bed and ridging it slightly.

Let one man bestride this ridge at the end of the line, and throw out the soil to the depth of six inches over a space four feet square, *i. e.*, let him form a bed for the vine four feet on each side, and six inches below the general level of the field. A second man having placed the vine in the centre of this table and spread the roots out; the first man, still bestriding the ridge, must step backwards and throw out from between his feet soil enough to cover the roots to the depth of six inches, thus planting one vine and making a bed or table for the second. The earth for covering the last vine in the row is taken from the end of the second row, that from the last in the second, from the third, and so on, and two men can thus plant with ease and rapidity. If the soil is wet and strong the vines should be planted four inches deep instead of six, this being the distance from the surface the roots are usually found when they have the power of selecting for themselves. Never shorten the roots of a grape vine. You may cut the top in within two eyes of the level of the ground, but by all means save all the roots."

To recapitulate, we may say that in these two papers Mr. Bull recommends a light, warm friable soil, not too rich; advocates the use of mineral manures only, and these in small quantities; advises us to give each vine sixty square feet of room; to plant shallow, without shortening the roots, and, though this we should have put first, he insists that grape growing is profitable

While waiting for the third article of this series to appear, an opportunity is given, perhaps, to say a word or two about the Concord grape, and its relation to other varieties. Passing by those growers who call the Concord "horrible," "containing not a single element of goodness," we come to the class that declares it to be a good grape, but now surpassed by better kinds, and that its day is drawing to a close.

Nothing could be further from the truth than this last notion.

Neither Mr. Bull, nor the present writer, nor in fact anybody of common sense maintains that the Concord is the best out-door grape we have, for all know that there are many kinds superior to this variety. The Diana is a better grape; the Delaware is decidedly superior; Allen's Hybrid and Iona, in point of flavor, leave the Concord out of sight,—and, in fact, we might go on and name other grapes that for table use claim a place in the garden with much better right than the variety we are discussing. We met a refined connoisseur the other day who professed to detect something "earthy" (!) in the flavor of the Concord, but without pretending to any such delicacy of taste, we admit that the Concord is a second class grape.

Making this inevitable concession we find on the other hand an immense volume of testimony in its favor. From vineyards scattered from Maine to Kansas comes proof that the Concord is hardy, is a sure and regular bearer, is vigorous and easy of propagation, grows well in a poor soil, and does not do badly in a rich one; endures the extremes of neglect and ill-treatment, and produces fruit that sells readily, and makes a good wine.

Has any one well-known variety now cultivated in the United States an equal mass of evidence in its favor? We think not.

Delaware Grapes were forty cents per pound in the Boston market last year, and Concords twenty-five cents, both these, of course, being the retail prices.

The latter kind may have sold so low as twenty cents some days, but we saw none at less than twenty-five.

Its wine-making properties have been settled decisively by Mr. Bull, in Massachusetts, and Mr. Husmann, in Missouri, and thousands of experimenters on a smaller scale.

I solicited last year the opinion of the three largest growers of grapes in Massachusetts respecting the Concord, and received the following answers:

The first says, "I know no grape possessing so many good qualities, either for the table or for wine as the Concord." The second writes: "I regard the Concord decidedly the best out-door grape that has yet been proved for field culture." The third says, "All things considered the Concord is the best grape with which I am practically acquainted."

It is needless to accumulate more evidence, and I should not have said so much if I were not tired of hearing people talk contemptuously about a grape whose work is not yet half done, and for an index of whose popularity the sales-books of our leading propagators may safely be consulted.

We hear that Rogers' 4 and 19 are to take the place of the Concord. If they are better, hardier, more productive and vigorous, we shall all welcome them with open arms, but until we have conclusive proof that the Concord is surpassed we shall cling to it as to an old and faithful friend

That the best out-door grape we now have is nearly as good as varieties that will appear and be disseminated in less than a score of years, we cannot believe.

The chances of getting improved kinds are too many; the experimenters too numerous, and their enthusiasm too genuine to leave any doubt about the result.

THE ORIGINAL RED BEECH TREE.

BY HORTICOLA.

Geo. B. Emerson, in his report on the trees and shrubs of Massachusetts, has the following, in regard to the original red (or purple) beech tree, on page 63:—"Among the most remarkable, are the purple, or copper beech, and the weeping. The original tree, from which all the varieties of the former of these have been propagated, is said to have been discovered by accident, in a wood in Germany, towards the end of the last century, *and is supposed to be still standing.*"

If a man of Emerson's extensive knowledge of trees had no better information of a tree so remarkable, and propagated and planted in all parts of the globe where the climate is adapted to the growth of the beech, it cannot be expected that others are better acquainted with it. As I was born in a village near enough to the place where that tree is still growing to enable me, when a boy, to go there often to look at it, and to admire it, I concluded to write something about it, thinking that such an

account might be of interest to those who like to investigate the history of our cultivated plants.

The original red beech tree is found in *Thuringia*, a part of Germany, lying between the Harz Mountains and the Thuringian Forest. Thuringia had formerly a sovereign of her own; then the city of Erfurt was her capital. At present, it is divided among Prussia, the principalities of Schwarzburg-Sonderhausen and Rudolstadt, the Grand Duchy of Saxeweimar, &c. Parallel to the Harz Mountains, at a distance of about ten miles from them, there stretches from west to east a calcareous ridge (shell lime), called the *Hainleite*, or *Hagelleite*, which I mentioned in this magazine several years ago (See HORTICULTURIST, 1861, p. 262). On the southern declivity of that ridge is the original red beech tree, still growing. The exact spot where it is standing is about five miles to the south of the city of Sondershausen, the capital of the principality of Schwarzburg-Sondershausen. The village nearest to it is Ober Spira.

Although I saw the tree often in my childhood, I did not wish to trust my memory. So many years have elapsed since that time, so many events have crossed my path of life, that I felt unable to depend exclusively on my recollections. I, therefore, applied to a gentleman, than whom, there cannot be found a better or more trustworthy authority in all Germany. That gentleman is A. F. Magerstedt, D. D., minister of the Gospel at Grossen, Ehrich, and counsellor in the highest ecclesiastical board at Sondershausen (Consistorial Rath). His place of residence is not quite five miles distant from the original red beech tree. Dr. Magerstedt is not only one of the most profound Latin and Greek scholars, having published a number of books on the agriculture of the Romans, but he is also a scientific as well as practical farmer himself. His zeal and enthusiasm to excite and promote the interests of farming and farmers is so great, that he founded the Agricultural Society at Sondershausen many years ago. As president of that society, he has already published twenty-five volumes of its transactions.—His work on the management of trees is considered classical, like another one on the gradual development of agriculture in the principality of Schwarzburg-Sondershausen. He is honorary member of a large number of agricultural societies in Europe, and has been honored by kings and princes with orders; and by universities and literary societies with many tokens of their respect and admiration.

To my inquiry, he replied kindly and promptly. His letter is dated January 16, 1866. His statements concerning the tree in question are so full and accurate, that it would be wrong to suppress even the smallest part of them; they cover the whole ground, and form the basis of the history of that interesting tree. They are invaluable, both for the scientific botanist and the amateur. The readers of the HORTICULTURIST will, I hope, peruse the translation of Dr. Magerstedt's letter with pleasure.—He writes as follows:

"That the red beech is of Thuringian origin, is shown by Dr. J. M. Bechstein, the great ornithologist. See Bechstein's Forest Botany (Forst-botanih), fourth edition from page 238. The original tree is growing in the forest of Oberspira, a village belonging to the principality of Schwarzburg-Sondershausen, not far from the north-west corner of the *Cliff Valley Meadow* (Klippenthals-Wiese), in the *Hainleite*, or *Hagelleite*, the ridge mentioned in the above. The tree which is an ornament of the beautiful forests of the Hainleite, is standing on a deep clay soil, overlaid with rich vegetable mold. The clay rests on shell lime rock. It is about 100 feet high; its diameter, from east to west, is 2 feet and 10½ inches, from south to north, 2 feet and 11 15-16 inches. Some branches appear at a height of 20 feet, but those of the true head at a height of 30 feet from the ground. The diameter of the head is, from east to west, 68½ feet; from south to north, 64 feet. The head is, at

the south and east sides, not well balanced or proportioned; it is not compact enough; at the west and north sides it is better.—The age of the tree is estimated at from 170 to 180 years. There are four common beech trees (fagus sylvatica) in its immediate neighborhood, nearly of the size of the red beech.

Bechstein asserts that the seed from the tree rarely produces red, but generally common beeches. Experience shows that he is not quite correct in this respect. If the nuts are taken from branches inside the tree, success is almost certain, while nuts from the outside branches are often the product of the pollen from the neighboring common beeches, yielding, for this reason, beeches with green leaves. This was proved in 1823 and in 1829, by direct experiments instituted by the Government, and corroborated in 1839; for in 1842 there were about sixty seedlings, showing the characteristics of the mother plant, growing near it, every one of which was, however, stolen and sold. In order to protect seedlings as well as grafts, nurseries have been established, so that, since 1842, the number of red beeches has very much increased. Now the turnpike leading through a narrow defile or ravine of the Hainleite, called *The Geshling*, is lined with red beeches.

Those grafted on the common beech change the color of their leaves gradually, according to their increasing age; they are darker than those of the mother tree, so that some are black red. Where a number of such grafts of different ages are growing together, it is easy to observe the change of the color of the leaves, the youngest being the lightest, the oldest the darkest.

Should you wish to read all that is known and that has been done in regard to the red beech, you will find it in the Translations of the Agricultural Society at Sondershausen for the year 1842; page 65."

Many readers of the HORTICULTURIST, as well as scientific amateurs, will be very thankful to my learned friend, Dr. Magerstedt, for the pains he has taken in giving an account so full and interesting of a tree which is so widely disseminated, and which, as a *Lusus Naturae*, has inaugurated that love for similar trees and shrubs, now ornamenting our gardens, parks, and pleasure grounds.

NOTES ON THE MAY NUMBER.

ABOUT THE GRAPE.—The writer has given facts and points that may, perhaps, induce some new rules in grape locations; at the same time, he has cut so hard on some of the "grape savants," and the horticultural world generally, that I shall look to see him handled, as the boy said, "pretty severally." The grape is fast becoming a very important item in its amount of revenue to our country, and any and every fact or opinion tending to its successful culture should be pleasantly and thankfully received. If the next meeting of the American Pomological Society would appoint a committee to collate the facts obtained and opinions given relative to soils adapted to varieties as well as the uses and values of varieties, they would do much in aid of information now accessible only to comparatively few persons.

DESIGN FOR A COUNTRY HOUSE. — The design exhibits taste, and is well drawn. I have, in previous notes, stated my doubts as to the universal adaptability of this style of architecture. On the borders of the Hudson, some points on the Ohio, sections of Pennsylvania and of Massachusetts, possibly one or two small sections of Connecticut, may, in their natural formations, harmonize with the gothic-pointed style of architecture; but, as a rule, I doubt the adaptation of the style. Another thing that in my mind opposes it is, that while it is good when fully carried out, and con-

structed of material to sustain its grandeur and beauty, cheap inch board carvings, verge boards, arches, &c., are an abomination, and result more in annoyance and cost for repairs to the owner than in pleasing association to the observer. Some years since, the Grecian column was entailed on every house, from a one-story cottage to state buildings, and with, perhaps, just as much appropriateness as any one style of architecture can be adapted to all uses and situations; yet we all know how the use of the Grecian, so common all over the country, came rather to annoy than please. I would, therefore, caution all builders to study well their natural locations, their wants and means of keeping up a style, ere adopting any design, no matter how pleasing its architectural effect.

Plan for Improvement of Grounds.—A capital design, and, from description, has been well carried out. There is one thing, however, which, although it involves considerable labor, I would much like to see connected with these designs, and that is, the showing of position and kinds of the various trees. The grouping of trees, selecting forms, habits of growth, color of foliage, &c., I find one of the items wherein most planters are deficient. It requires a natural taste, and years of careful study, to enable a planter to so arrange his trees, that, with little or no care, the end of ten years will show them well and harmoniously grown and grouped. I have no doubt Mr. Baumann can do it, and suggest that he give us a little plan adapted, say, to a lot fifty feet front by one hundred deep. I recently saw grouping of trees in this manner, viz., a Scotch pine in the centre, three balsam firs surrounding, and an elm at a short distance, the gardener having obtained the idea, that there must be an unequal number of trees in a group, and that one must be planted a little away from the others, Was he right, think you?

Design for a Grape Arbor.—A very good design, and one that will well suit many places. I have no disposition to place my design in competition, but for some years I have superintended the construction, from time to time, of grape arbors in this way: My posts are turned of locusts or cedar; sit three feet in the ground, and seven feet out of the ground; a quarter inch iron rod is sprung from the top of each post to its opposite, to form the arch, or roof; to the posts on the sides, No. 9 wire is fastened laterally, by staples driven into the post; and the same wire to the arch rods overhead, by a twist at each end, and by winding with smaller wire at each crossing of wires. This forms a light trellis; the tendrils of the grape cling to the wire, requiring little or no care in training, and there is no breaking away of slats or other woodwork.

Pears.—*Emile d'Heyst and General Totleben*—With the first-named I have some little acquaintance, and doubt not Mr. Downing's description, for we all know him in fruits to be generally correct, but he must have had the fruit in better condition than I have. My notes of it, with a shaded drawing, made two years since, place it as "*vinous*, melting, pleasant; good *second* quality."

Propagation of Hardwood Grapes Made Easy.—Thanks for this plain statement. It is one more proof that all of grape-growing has not been written in the books, and that experiments are now being made of new methods, resulting in better success than following the practise of the old guide books.

Planting Street Trees.—I wish every owner of a country home could read and profit by this article, as profit he must who reads it. The filling up around trees with manure is often practised, and counted by those of little acquaintance in tree planting as the "very best way." I recently examined two trees, the owner of which wondered what had killed them. Both had a mass of manure around the crown and upper roots, the fermenting of which had affected and destroyed the flow of sap.

There is one other item in connection

with street planting of country roadsides that should be heeded, and that is the moving a fence temporarily—*i. e.*, three or four years—out on to the line of road, thereby narrowing and detracting from the appearance and value of the lands as much or more than the trees, hedges, &c., advances it. Add to this the slovenly practice of throwing all the waste brush, dead briars, &c., upon the road side, and you have a man before you that deserves preaching to, if nothing more.

Cordon Dwarf Apple Trees.—An article illustrative of the practice which the present writer has endeavored to induce some gardeners to adopt. It is even of less trouble, once the form is established, than the keeping in form of dwarf bush trees. I am glad to see an advocate, and hope, now the Horticulturist has touched it, that gentlemen's gardeners will devote a little time to its practice.

Grape Cuttings from Modern History.—The record here collated of the capriciousness of the vine in France and elsewhere, is analagous to what Mr. Elliott, in his "About the Grape," would apparently have us understand, as a point to study in its culture in this country. All these records are worthy the attention of those who look to profitable results in grape growing. If that new white grape, superior to Dr. Grant's *Anna*, produces any fruit this season, I hope Mr. Reid will let us see it.

Should Plants be "Crocked."—Thanks to Mr. Cowan for bringing out from Mr. Henderson this article. Although a little *crisp*, the readers of this journal have gained in getting full reasoning for a practice new to many.

Notes on Grape Culture.—Another collation of facts and observations of value to all grape-growers. I am glad to see this record of the quality of Rogers' 15 grape. I have no doubt this variety will prove one of very best of hardy grapes, both for table and dry wine purposes.

Reuben.

SIR THOMAS BROWNE'S GARDEN OF CYRUS.

Seeing, Messrs. Editors, in your well-spread and abundant Table for January, a tid-bit, or *bonne bouche*, from Sir Thomas Browne—for many years one of my favorite and familiar authors—I take leave to send you a brief notice of him, and of his quaint and curious work whose title I have written above.

Sir Thomas was born in London in 1605. After a liberal education at Winchester and Oxford, he settled at Norwich as a physician in 1636, and retained an extensive practice in the city and county to the end of his life. In 1641, he married Mrs. Dorothy Mileham, "of a good family in Norfolk." In 1642, his *Religio Medici* was surreptitiously printed. Even in those "dissonant times"—to use the gentle phrase of Harry Lawes, who lived in them—this book of serene wisdom found so many readers that two editions were immediately disposed of. It came out under the author's sanction the following year, and numerous re-impressions were called for in his lifetime,

The splendid success of the *Religio Medici* most likely took its author by surprise. Though possessed of a moderate sense of his own ability, and a respectable independence of spirit, he was far above the arrogance of vanity. It may be believed that most writers who eventually attained great popularity, although they might have some instinctive consciousness of the power within them, were yet unable to guess exactly how or when it would receive a public recognition. They just let their inspiration have its utterance. Nor, in many cases at least, could they subsequently tell with precision what it was in their writings

which had fastened on them so universal a sympathy. The bond of attachment between an author and his reader may be too subtle for analysis. Perhaps, granting even a superabundance of genius, with all the acquired skill of practice, disappointment would be the fate of him who determined to sit down and compose, resolutely, a book which should *take*, as decidedly and confessedly as the *Pilgrim's Progress*, *Robinson Crusoe*, or the *Religio Medici*.

All Sir Thomas' subsequent works were written in Norwich; and not a few minor pieces, specially local, were the results of his industry and love of letters. In 1671, he was knighted by Charles II., when on a visit to the ancient palace of the Howards in Norwich. In 1682, eleven years later, he died, after a short illness, in the 76th year of his age.

Of those productions which take high rank in a formal list of *opera omnia* the *Garden of Cyrus*, which was first published in 1658, is the least inviting, though eminently characteristic of its author, as is at once shown by the second title, namely—"The Quincuncial Lozenge; or Network Plantation of the Ancients, Artificially, Naturally, Mystically Considered." It must be regarded as one of the most fanciful of his works; and the most eminent of his admirers have treated it as the mere sport of the imagination. These are, as Coleridge says, "Quincunxes in Heaven above; quincunxes in earth below; quincunxes in the mind of man; quincunxes in tones, in optic nerves, in roots of trees, in leaves, in everything." The quinary theory of created things, as propounded by some few modern naturalists, would have been a wonderful suggestion to Sir Thomas.

The *Garden of Cyrus* is so styled because, as Browne says, "all stories do look upon Cyrus as the first splendid and *regular* planter. According whereto, Xenophon (Œconomico) described his gallant plantation at Sardis, thus rendered by Strobæus —*Arbores pari intervallo sitas, rectos ordines, et omnia perpulchre in quincuncem directa.*—That is, the rows and orders so handsomely disposed, or five trees so set together, that a regular angularity and thorough prospect was left on every side; owing this name not only to the quintuple number of trees, but the figure declaring that number, which, being double at the angle, makes up the letter X—that is the emphatical decussation, or fundamental figure.

"Now, though, in some ancient and modern practice, the area, or decussated plot, might be a perfect square, answerable to a Tuscan pedestal, and the *quinquemio*, or cinque point of a dye, wherein, by diagonal lines, the intersection was rectangular—accommodable unto plantations of large growing trees—and we must not deny ourselves the advantages of this order, yet shall we chiefly insist upon that of Curtius and Porto in their brief description hereof, wherein the *decussis* is made within, in a longilateral square, with opposite angles, acute and obtuse at the intersection, and so upon progression, making a rhombus or lozenge figuration."

With this lozenge as his sole guide, Sir Thomas starts at full gallop on his literary steeple-chase. If he halts a moment for refreshment, it can only be at the sign of the Chequers. He becomes more and more excited by the game; but diamonds are trumps at every hand. He finds even the Garden of Eden laid out in the Dutch style, and probably full of quincunxes. "Since in Paradise itself, the Tree of Knowledge was placed in the middle of the garden, whatever was the ancient figure, there wanted not a centre and rule of decussation." Of course not; where there is a will there is a way to lozenges.

Again, Sir Thomas—"The networks and nets of antiquity were little different in the form from ours at present. As for that famous network of Vulcan, which enclosed Mars and Venus, and caused that unextinguishable laugh in Heaven, since the gods themselves could not discern it, we shall not pry into it. * * * Heralds have not omitted this order or imitation thereof,

while they symbolically adorn their escutcheons with mascles, fusils, and saltyres, and while they dispose the figures of ermines and various coats in this quincuncial method. The same is not forgot by lapidaries while they cut their gems pyramidally or by æquicrural triangles. Perspective pictures, in their base, horizon, and lines of distances, cannot escape these rhomboidal decussations. Sculptors, in their strongest shadows, after this order do draw their double hatches."

And so on, *ad infinitum*, it might be. Sir Thomas stops only because he chooses to stop, not because he has run himself dry.—There are digressions, it is true, but not of wide circuit. We do not regret them when they contain passages like the following:—

"Light that makes some things seen, makes some invisible; were it not for darkness and the shadow of the earth, the noblest part of the creation had remained unseen, and the stars in Heaven as invisible as on the fourth day, when they were created above the horizon with the sun, or there was not an eye to behold them. The greatest mystery of religion is expressed by adumbration; and in the noblest part of Jewish types we find the cherubims shadowing the mercy-seat. Life itself is but a shadow of death, and souls departed but shadows of the living. All things fall under this name. The sun itself is but the dark *simulacrum*, and the light but the shadow of GOD."

But the moment the clock strikes five in any way, Sir Thomas is back again amidst his pentagons, quincunxes, and lozenges.—He nauseates "crambe verities and questions over-queried," and informs us that the "noble Antoninus doth in some sense call the soul itself a rhombus." This proposition is the sum of all things, and therefore, as he says "'tis time to close the five ports of knowledge" on this transcendental matter. But we cannot even walk away from his symmetrical garden without being reminded, finally, that "the incession or local motion of animals is made with analogy unto this figure, by decussative diametrals, quincuncial lines, and angles," and that even in the motions of man, the legs "do move quincuncially by single angles, with some resemblance of a V, measured by successive advancement from each foot, and the angle of indenture greater or less, according to the extent or brevity of the stride."

S. T. D.

THE CAMPANULA.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

THE family of the Campanula is one of the largest among the Herbaceous Perennials, and some of its members are of remarkable beauty. Perennials, a description of plants which a caprice of fashion has for some years past thrown into the shade, are beginning, by a healthy return, to resume their natural place in horticulture. They vary indefinitely in value and character, and while some are mere weeds, others are among the most beautiful of flowering plants. We propose to draw attention to a few of them, and we begin with the Campanulas.

There are at least a hundred and fifty species in the genus, and some of them have many varieties; so that of the Campanulas it may be said that their name is legion. Some are perennial, some biennial, some annual, some are hardy, and some are tender. There are several allied genera, such as *Adenophora*, *Wahlenbergia*, *Platycodon*, and *Canarina*, which some botanists merge with the Campanulus, and which have so close an

affinity with them, that for horticultural purposes they may be regarded as one. We will therefore consider them all under the same head.

Perhaps the best known of the whole race is *Campanula Medium*, the familiar Canterbury Bell. It is a biennial, and must be raised every year from seed. There are at least five or six varieties of it:

First, the original species, the old blue Canterbury Bell; then the white variety; then the lilac; then all these sorts, double. The double kinds are, to our thinking, less to be desired than the single; for, with them, the concavity of the bell is stuffed with what looks like a confused mass of crumpled petals, which destroy the peculiar beauty of the flower. Unlike many other double flowers, they yield seed pretty freely, and this seed produces a good proportion of double-flowering plants. Canterbury Bells thrive best in a rich garden loam. They should be raised from seed in a greenhouse or hot-bed, and planted out in May where they are intended to bloom. Treated in this way, they will make a very strong growth during the season, and the bloom will be proportionally fine. Or they may be sown in the open border in May; but in this case, neither the growth or the blooming will be so vigorous.

There is another Campanula, much less known than the Canterbury Bell, but exceedingly fine and well worth cultivation.

We are in doubt whether to call it a true perennial or not. On one occasion, after blooming properly in the second summer, it died like a Canterbury Bell; but, on the other hand, we have now a bed of it which has remained in fine blooming condition for several years, and promises this season an abundant crop of flowers. This species is *Campanula Macrantha*. The flowers are large, elongated bells, of a deep purplish blue, growing in tall spikes, somewhat like a Foxglove, and the plant, when in bloom, has much of the same stately character. It is exceedingly well worth cultivating.

Campanula punctata, sometimes called *Campanula nobilis*, has long, drooping, tubular flowers, which, in one variety are purple, and, in another, white with purple spots. The latter are very beautiful, hanging in clusters from stems some two feet high, and drooping with their own weight till they are almost vertical. This species, like many others, is easily increased, by dividing its creeping roots; but the best plants are those raised from seed, which flower vigorously the second year. Campanula punctata is a true perennial, and has proved, with us, perfectly hardy.

Campanula trachelium, and *Campanula rapunculoides* have no little beauty, and would be well worth a place in the garden, were it not for their vicious habit of throwing out long, underground roots, which, if left undisturbed, would take possession of the entire bed. These roots insinuate themselves among those of other plants, grow up under their shelter, and commonly end by overpowering and destroying them.

Campanula persicafolia is entirely free from this propensity; for though it increases fast by its offsets, its growth is open and above-ground, and never becomes a source of annoyance. It is, moreover, one of the most beautiful of the family. There are at least seven varieties of it worthy of notice; the single blue, the single white, the large flowered blue, or C. *persicafolia maxima*, the two double varieties, blue and white, and lastly the two *crowned* varieties, C. *persicafolia coronata*, blue and white. These are, in fact, semi-double, and are of beauty not inferior to the double sorts. The last are less vigorous in growth than the other members of the family, and the double white variety is occasionally winter-killed in New England. Like other Campanulas, they thrive in a good garden loam, well enriched with rotted leaves and very old manure, and are easily increased by dividing the roots in August or September.

Campanula Carpatica is a low-growing kind, sometimes used for edging, a purpose

for which its neat, compact foliage, and the beauty and profusion of its bell-shaped flowers very well adapt it. There are blue and white varieties, and also a cross between the two, known as C. *Carpatica bicolor*, though the name is inappropriate, for the colors, instead of being distinct, are merged into one,—a white, faintly tinged with blue.

Campanula pyramidalis is, when well grown, a superb plant. It has a thick, fleshy root, a rounded or heart-shaped leaf, and immense spikes of bloom, shooting up from the crown of the root to a height of five feet and sometimes more, and set thickly with flowers from the summit nearly to the base. A strong plant will produce six or eight of these flowering stems. As the flower-buds are innumerable, and as they develope in succession, flower succeeding flower along the whole length of the spike; the bloom is of great duration, continuing for weeks together. This Campanula was once in great request as a decoration of halls, staircases and the capacious chimney corners of English country-seats of the last century. Nor is it yet out of favor. Not all the exotics which English horticulturists have gathered from the four quarters of the globe have availed wholly to supplant it. It requires good culture to develope all its beauties. The best plants are raised from seed, though it may also be increased by cuttings of the roots. In the open border, it makes a handsome and effective decoration; but to be shown to the best advantage, it should be grown in a pot. The young plants, from the seed-bed may be potted in a four-inch pot—or smaller, if necessary—in a soil rich in vegetable matter, but with little or no animal manure. As the roots fill the pot, shift them into one a little larger, and repeat this process until the plant has reached its full growth. In this country two summers will suffice for this. In England, more are said to be required. The object of this repeated shifting is to prevent it from blooming till it has reached its greatest size and strength. In winter, it must be sheltered in a cold frame or cellar, and kept moderately dry, but, during the growing season, it demands an abundance of water. When its maturity is reached, you will have a dense tuft of vivid green leaves, some two feet in diameter, whence the flowering stems will soon begin to rise. These may be trained with sticks, in a fan shape. Campanula pyramidalis is not perfectly hardy here.

Among all the Campanulas, we prefer the species *Grandiflora*, called also *Platycoden Grandiflora* and *Wahlenbergia Grandiflora*, In Europe, it is greatly esteemed, but is said to be very scarce, from the difficulty of propagating it, as it rarely ripens seeds there, and its fleshy roots bleed so profusely when divided, that they commonly die. Here, however, it ripens seeds freely, and is certainly destined to be a favorite border flower. Its foliage is compact, and it has always a neat, clean and healthy appearance. It grows about two feet in height, and, in the blooming season—June and July—hangs out a profusion of very large bells, of a deep purplish blue in one variety, and, in the other, of a pure white. There is also a "crowned" or semi-double variety. The buds are peculiar, and almost as beautiful as the flower, being shaped like balloons. We have never known a single plant of this species to suffer from a New England winter.

The above, we think, are the best of this very beautiful family. There is a host of others, including the small Alpine Campanulas—gems in their way, but which require the winter protection of their native snows, and several fine annuals, among which *Campanula Loreii* and *Campanula speculum* will deserve to be mentioned.

INSIDE GRAPE BORDERS.

BY J. S. HOUGHTON, PHILADELPHIA.

In the culture of foreign grapes, under glass, it has been thought that borders entirely inside the house promised advantages over outside borders, or borders partly outside, which rendered such borders worthy of trial, especially in the case of late grapes. Inside borders are, of course, entirely protected against the influence of storms at all times, and the plants may be started or checked at will. If late grapes could be successfully grown in them, the fruit might be kept for many weeks on the vines after the natural period of ripening, without danger of being injured by the autumnal rains, and the crop would then be quite as valuable as early forced grapes. Very extensive and costly experiments having been made with inside borders in the neighborhood of Philadelphia, I have thought it might be useful to record the result of these trials, for the benefit of grape-growers generally.

The plain fact, then, is, so far as I have seen, that the inside border here is a lamentable and singular failure.

Reasoning from all that we know of the conditions necessary for the growth of the vine, and from its success in pots, no one could anticipate such complete and uniform failure as has attended its culture here in inside borders. The vine may be grown with a great show of success for one or two years in such borders, by the aid of plenty of water and a high temperature, but as soon as they begin to fruit, they decline and die most mysteriously. In five or six large grape-houses within my knowledge, this has been the certain result. These houses were built by Thomas Drake, Lewis Tawes, and Peter Keyser, Esqrs., of Germantown, William Bright, and myself.

In all these houses the floor under the borders was made of solid concrete, or bricks, impervious to water, and in several instances the borders were separated from the side walls by air chambers. In some of them air was conducted under the borders by flues, and two or three of them were entirely separated from the floor by four-inch brick work, with the idea of giving them some bottom heat. The suspended and ærated borders proving failures, the air conductors were in several instances removed from the bottom of the pits, and the borders were placed directly upon the concrete (good drainage being provided), but with no better success. The most ample provision was made for watering the borders, by means of large rain-water tanks, force pumps, evaporating troughs, and concrete paths kept constantly wet in hot weather.

In borders of good size, the trouble and expense of watering inside borders is not the chief objection. The watering is a formidable job, even with the aid of a large tank and force pump, but this could be endured if the borders would answer the purpose. The question of watering, however, is a very perplexing one. How to water, when to water, how much water should be used, and of what temperature—these are questions not yet satisfactorily answered, although we have tried the extra wet method, the partially dry method, water at 55°, and water at all temperatures up to 140°. But nothing that can be done by the most skillful will make the vines grow in such borders after the second or third year, especially after fruiting. They appear to sicken and die, and refuse to be comforted or relieved by any appliances of water or manures that have yet been tried. The roots, in almost all instances, become black and cankered, and no new or healthy fibres can be discovered.

This disease of the roots is not occasioned, in all instances, by over-rich borders, or by over-manuring, for some of our experimenters have gone to the extreme in mak-

ing poor borders (for late grapes of strong growth), composed of rotten rock, sand, plain loam, lime rubbish, &c., with only a little wood ashes and pure bone dust. But no kind or quality of border appears to answer when entirely inside the house, and separated from the earth by a concrete bottom.

Now, what is the cause of this general failure of inside borders? The vine will thrive for many years, if not over-cropped, in a common pot; then why not in an inside border, which is in fact only a large pot? I have contended for six years that an inside border *must* answer, but I am compelled to give it up now. I have tried the inside border in all shapes, and with the most skillful management, but it will not do. It looks reasonable that a vine should do better with its roots all inside the house, perfectly under control, than with part of the roots outside, exposed to very different degrees of temperature, moisture, &c. But the facts condemn the reasoning.

The causes of this general failure of inside borders I cannot understand. The effect of constant watering which such borders require may be injurious. It may make the borders "sour," as gardeners say. I have also thought that separating the borders from the earth by means of concrete, prevented the soil from receiving some natural moisture by capillary attraction; and perhaps, also, some magnetic or electric influence from the body of the earth which may be necessary to the life of the vine. The size of the borders has evidently no influence in producing the failures, as they are never filled with roots, and therefore are not exhausted.

I have been told that inside borders have been much employed about New York city, but with what results I have not learned. I should be much pleased to see reports of the working of such borders there or elsewhere.—*Hovey's Magazine, February.*

MATERIALS FOR FRAME OF ROOF AND SIDES OF GREEN-HOUSES.

As to whether iron or wood is most economical and best for flowers and vines, provided the rafters are made light, we would unhesitatingly prefer wood, as preferable in both respects. In a wide house, and where lightness is an object, we should prefer the necessary pillars, and even small rafters, being of iron; but as a general principle, for everything connected with the roofs of plant-houses and forcing-houses, we prefer wood to iron. True, some of the finest productions in the country are grown under iron-framed houses, but that does not prove iron to be the best material. Its liability to rust, and, therefore, the need of painting oftener, and consequent extra expense, and its heat-conducting properties, which cause it to be so hot in summer, and so cold in winter, occasioning often additional expense for fuel and glass, crackage and breakage, ought to be thought over by every man putting up iron houses. We know that when kept well painted these evils are lessened, but not removed. And then, suppose you cannot, or do not choose to paint the interior of your house often, the drip from unpainted wood will do no harm to your plants, but from unpainted rusted iron it leaves its scathing mark wherever it falls. A number of years ago we were consulted as to building a conservatory. The owner had set his mind upon iron, as more lasting, &c.; we urged all these matters in order to have wood, but when we could not positively state that the expense of the iron would exceed that of wood, in the article of fuel alone, £20 per annum, it was decided to have iron, and there it is incessantly getting rusty on the roof, and the dripping spotting every leathery leaf on which it falls, it being scarcely possible to keep such plants as

Camellias in a healthy state beneath it. Then think, too, of the bother of ever and anon emptying houses to get the inside painted, which you must do *often*, in the case of iron, if it is to be kept from rusting. A wooden roof, when well done, does not require painting inside so often in a lifetime, if frequently and properly washed. Then, again, as to the expansion of the metal, and the breakage of glass in consequence; we know that much depends on the glazing, giving the glass ease enough, but in a house well painted the previous summer, and so far neutralizing its conducting properties, we have gone out on a cold, frosty night, when there was just enough of heat to keep the temperature a little above freezing within, and have heard the panes crack and chip in dismal chorus, when those under similar circumstances on a wood roof never made so much as a chip. In such houses, where no heat was applied, the matter was even worse, though wood roofs wholly escaped, where there were no large laps in the glass. Good, sound *deal*, say we, for all dimensions and kinds of glass roofing.—*Manuals for the Many.—Greenhouses.*

FORCING STRAWBERRIES.

BY GEORGE CRUICKSHANKS, ST. JOHNSBURY, VERMONT.

In detailing my method of forcing the strawberry, I have nothing new to offer; still, as some of your amateur readers may wish to practice this mode of culture, I may be excused if I add nothing to the knowledge of the practical gardener.

Plants for forcing are usually obtained from runners from old plants. The earlier in the season these can be procured, the better; and it is also important that they should be taken from none but vigorous plants in the open ground, preferring a young plantation to an old one, as the former generally produces, the most vigorous runners. As soon as the runners have pushed one joint, have ready a number of 3-inch pots, filled with rich, light soil.—Plunge the pots to the rims in the ground near the old plants, so that the joint of the runner may come over the centre of each, and place a small stone upon them, to keep the plant from being displaced until rooted.

Unless there is a scarcity of runners, take only one plant from each, thus securing all the strength to the one in the pot. As soon as the small pots are well filled with roots, the plants should be shifted into their (6-inch) fruiting pots. In doing this, use the following soil: Two parts good turfy loam; one part old hot-bed manure. Place one crock in each pot, and cover the bottom with the coarsest of the compost. Fill the pot with the finer material, leaving room enough at the top to hold water. The plants should then be placed in the shade for a few days, until they recover from the repotting, and then plunged in some open airy situation, where they can have the full benefit of the sunlight. A vigorous growth at this season will ensure a future fine crop of fruit.

As cold weather approaches, the pots should be moved into a frame, or house, and kept from freezing—some place where they will grow slowly all winter, until required for forcing.

About the 1st of February, I place the plants in a span roofed orchard-house, on the west side, near the glass.

The forcing is commenced with a night temperature of 40° to 45°, syringing every pleasant day, until the fruit begins to color; even while in flower, use the syringe freely, which will cause the berries to set better. When the fruit begins to ripen, the temperature should be raised from 50° to 55°, giving all the air possible in fine weather. By

following this process, I this year had ripe fruit March 28.

The sort cultivated was Triomphe de Gand. The photograph sent you was taken, May 5, of a plant in fruit, on which were fifty-three berries, eight of them fully ripe, and some of them measuring 1½ inches in diameter. This was one of one hundred pots, many of which had larger fruit.

In order to be successful in forcing the strawberry, it is important that the following conditions be complied with:

First—Propagate from strong, vigorous plants in the open ground.

Second—Give all the light and sun possible, after being placed in the fruiting pots.

Third—Place the plants where they will not freeze, but be kept growing moderately until they are removed to the forcing-house.

Fourth—When introduced into the forcing-house, the night temperature should not at the commencement, rise above 40° or 45°, gradually increasing to 55°, as the fruit ripens. The day temperature, by sun heat, may rise to 75° or 80°, giving an abundance of ventilation.

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

Hints for Amateurs and Others.—by aqellulus.—A good many are disappointment, when they open the boxes or packages of plants, they have ordered from nurserymen. I do not now mean disappointed on account of the nurseryman's not having sent what was ordered, or his having sent, what is worthless. The disappointment I refer to, is that in finding the plants in a bad state, viz., dry, branches broken, &c., the fault is sometimes in the nurserymen—they don't pack well enough, sometimes with the expressmen and the U. S. Mail carriers, they forget to "handle with care;" sometimes both are faultless, and the damage is caused by the far distance the plants have to be sent.

Disappointment is an evil, and the hints I offer will, in many cases, remedy the evil.

Your strawberries you find "pretty dry;" don't despair! don't throw them away; don't plant them immediately, but take them to a shady place, and plunge them in water. Let them lie a good while, and you will soon see them all, or most of them fresh; then you may plant them.

This will apply also to other plants, roses, geraniums, &c., &c., but some plants will require more time to lie in water. You must then wait a little longer.

I once received from a friend, living at a great distance, a very rare plant. The friend did not think of packing very carefully. He put a little earth around the roots, and wrapped it in paper, and mailed it. Well, when he packed it, the earth was wet enough. But the mail! When I opened the package, I found a good deal of dust and a few black things, that seemed to have been plants at a former time. I did not despair; I got a tumbler of water, and put the whole mass therein. The next day I saw by means of a microscope, something green, but very small. I waited a while and then planted, giving plenty of water.

I have just read, in a horticultural paper of the old world of two cases, which, I hope, your readers will find very interesting. They are narrated by a highly educated gardener. In a part of his garden where

—in the month of April—roses had been planted, he found, after two months, one plant that had been forgotten, to be planted out, and therefore was quite dry. He put it in water, in a shady place. Six week's having elapsed, he found new white roots and green sprouts.

In the month of July, the crown of a high-growing Remontant Rose was broken off by the wind. It was, when found, quite dry, having been exposed to the sun and wind during six weeks. He put the crown (which had had thirty to forty flowers) in water. After three weeks he found life, whereupon he cut it in pieces, both the old and the young wood, and planted them in an old hot-bed. Most all of them grew.

Skilful Gardeners.—We hear frequent complaints from correspondents relative to the blundering and unskillfulness of their so-called gardeners. We say *so-called* gardeners, because we know there are a great many really intelligent men in the class of gardeners who deny these pretenders as much as we can. As a class, we do not believe there are a greater proportion of pretenders among gardeners than among lawyers or doctors, &c.; and we do know that there is in gardening a constant incentive to attain more and more knowledge, by him who has studied even to the point of a passable cultivator. As the gardener rises in knowledge and position, horticultural science multiplies its inventions, and demands from him more and more study and observation. Changes and improvements constantly press downward upon the gardener wanting in a love of knowledge, while they assist and heave upward the student. That there are too many unskilled men who pass themselves off upon the uninstructed amateurs we acknowledge; but, as the amateurs become more and more conversant themselves, these pretenders will be reduced in numbers. We must not decry the profession, for it is a noble one; but we, and all true gardeners, must discountenance all and every unskilled pretender, until they assume their proper places, and seek, by study and practice, to acquire a knowledge fitting them to enjoy in reality their present assumption.

We hear frequent complaints of the exorbitant prices demanded for new varieties of fruits and flowers, as they appear in market. Probably, in some instances, these prices are excessive; but it must be considered that the cultivator who brings forward these new plants has spent years, and much care and labor in producing them. If they possess merit, it is only fair that he should receive some remuneration for the time and labor expended. This must be done in two or three seasons, for then they will be in the hands of other propagators, who will divide with him the profits, and diminish the amount of his sales, and bring down his prices. There are many persons who cannot afford to pay these high prices. In a few seasons, however, they will be reduced so as to come within the reach of all who desire to possess them.

Rhododendron beds should now have a mulch of leaf-mold, chopped straw, the refuse fine chips or dirt of a woodyard, or its equivalent in vegetable matter, placed all through and over the bed to a depth of three to four inches. Remember that, although some of the varieties are found growing wild on mountains, and in clefts of rocks, &c., yet all such positions, on a close examination, will be found ever moist and cool for the roots, hence their cultivation in our gardens should be measurably to the same end, and no better way do we know of than mulching with vegetable debris.—Some writers have urged the use of animal manures, well rotted, around rhododendrons and other evergreens. We have used it; and while it, at the time, appears to give additional vigor and rapid growth, the result, finally, has been to give to the plant a more immature habit, and less capability to withstand the extremes of temperature.

Cucumbers may be planted any time before the 10th of this month, July, and produce abundance for pickling. The white spine is the best variety we have grown for such use.

All Herbs should be cut from time to time, just as they are coming into bloom. Spread them out to dry in a shaded place, and as soon as dry pack them away in *paper* bags.

Strawberry beds, as soon as they have done fruiting, should be thoroughly wed out, and the present paths or spaces deeply spaded. If the plants are kept in hills, then work the ground all among them.

The bearing stems of all Raspberries, except the ever bearing kinds, should be at once cut away as soon as they have done fruiting. Blackberry plantations are also much easier handled by cutting the bearing canes away immediately after they are done fruiting.

Raspberries and Blackberries are among the fruits of this month. We will thank our friends for notes thereon, forwarded as soon as made.

Cherry, plum, and pear trees may be budded this month. Much, however, will depend on the stock, as well as the season. If the weather is wet and cool, and the stocks are growing vigorously, it may be as well to wait awhile. If the weather is dry, and stocks are about closing their growth, the sooner the bud is inserted the better. When the Mahaleb Cherry is used as a stock for the cherry, it may, perhaps, be as well to omit budding until early in September; but if the Morello is used, now is the time to bud.

With the pear, if the quince is to be the stock, budding may be omitted a month; but if the pear stock is used, the last of this, or first of next month will be late enough.

"Pruning Trees to Let the Sun In."—A few days since, happening through a friend's young orchard of apple trees, we found them all pruned, with the heads, or leaders, mostly cut out, and the bare branches and centre of the tree fully exposed to the full blaze of the sun. We asked the why, and our answer was, "It was done to let the sun in." We said nothing, but thought to ourself that, in this clear sunshiny clime, where shade is essential to vegetable life at mid-day, our friend must have been conversing with some old country gardener, whose practice had been in a clime of moisture, and where to obtain sun, not shade, was a part of his routine.—As a rule, more injury than good is done by this severe pruning. Cut away all crossing branches or twigs; shorten in all that incline to grow too strong, and throw the tree out of shape; cut away some few little weak shoots; and then throw away your knife, rather than mutilate the tree by cutting its limbs, and causing it to try for its life by sending up watersprouts.

Dahlias require care this month. If you want the best flowers, tie the rising plants to a stake, removing all but a single stem; and if they show flower ere the weather becomes cool, remove the bud. If you want a profusion of blooms, rather than particular forms, then peg down all the branches, and head back the leader, thus forming a mass, which, if carefully attended, soon becomes very effective. The best manure or stimulant to growth that we have ever used is soap suds water, and chamber lye mixed, four of the former to one of the latter.

Carnations and Picotee Pinks should now be layered. Bend the branch down, make the incision, cut on the upper, instead of the under side, peg it carefully, cover an inch with sharp sandy loam, then mulch with some neat material that will not be blown aside by the first wind.

Hollyhocks should be firmly secured to stakes, well driven into the ground.

Creeping Plants, such as honeysuckles, wistarias, &c., require to be occasionally gone over at this season—trained, tied, and an occasional shoot nipped in, to keep them neat, and give strength to the remainder.

Ice Water.—Some years since, we remember, a statement, to the effect that a lump of ice—say ten pounds—placed in a well, will render it delightfully cool, and far more pleasant than water from a pitcher of ice. The ice has to be renewed once in about ten days.

Tomatoes may be trained on a wall, or board fence, with little trouble, and give in return an abundant crop of fruit. In the garden, a low lattice rack—say two feet high, and the same wide—we have found a neat and profitable way of growing them.

Dormant Tree.—Record is made of a tree planted in the fall of 1838, which remained dormant until June, 1840, when it shot out, and made fine growths. We have frequently had trees remain dormant until July or August of the same year of planting, and once a peach tree pushed no bud until the 3d of September; but this is the only instance we know recorded where a tree has retained vitality in a dormant state during two winters and one summer.

How far long pruning and wide planting may be profitable we imagine is yet an unproved item; but this looks to us as much an extreme as the practice of three by three or four is the other way.

Salt for Mildew on the Grape.—Looking over some old journals, we came across a statement of the use of salt as a preventive of mildew on out-door and vine yard grapes. The practice was a solution of salt in water, *just sufficient to be perceptible to the taste*, and syringing the vines two or more times with it. We would like to hear of its trial and the results on some such variety as the Yeddo, or other mildew-determined sort.

This and That.—The other day we were reading the transactions of the Eastern Penn. Fruit Grower's Society, at their January, 1866, meeting, where we found Mr. Crucknell said "pears worked on quince stocks could not be depended on to live longer than about twelve years. Mr. Meehan said the object of dwarf trees was to obtain fruit earlier than when on standards, and that it was never expected the trees would live to a great age." Now, this may be all correct, but we have ourself pear trees worked on the quince that we planted out from the nursery in 1847, and they are now vigorous and healthy. We have frequently visited gardens where pears on quince roots were grown, among others, that of Mr. Wilder, Boston, and have found trees varying from twenty to forty years and more old, and in good vigorous bearing condition. Our belief is, that with judicious care in pruning and culture, pears worked on quince will continue good one hundred or more years.

Coping for Grapes.—The plan of protecting grapes from dew and rains, and thereby prevent rot, we believe was first tried by Mr. J. Van Buren, of Georgia, in 1852. By some the practice is claimed as a successful and valuable one, fully repaying in one season the cost of erecting; others say it is of no value.

Sixteen and a half Feet Apart.—At the last winter meeting of the New York State Agricultural Society, Mr. Lay, of Greece, Monroe County, reported his vineyard as being planted sixteen and a half feet apart, and trellised eight feet high. He claimed for this distance immunity from diseases and permanency of vineyard.

Tradition curiously hath it, that the tree from which Zaccheus saw our Saviour whilst on his way to Jerusalem was the *acer pseudo platanus*, or English sycamore.

Advice Gratis.—If you are about building and improving a new place, consult your architect in the design and character of your house, and call your architect and your landscape gardener together, that they may consult as to the position for placing the house in the grounds.

The architect may be a landscape gardener, but, as a rule, the study of architecture has swallowed or detracted from that of tree and plant, hence it is found, that while as an architect he may design an elegant edifice, it may not be in the best style for the surrounding country. He may also know when the position on the grounds will show his house to the best advantage; but it may be the worst position for the landscape gardener to arrange his grounds to produce the best effect. If about to build, then call together the aid of both architect and landscapeist—consult them together, for money expended before making a move, and for such purpose, proves the best part of an investment in building and planting.

Calcareous Soil for Dry Wines.—In 1834, a little work was published in London, written by James Busby, and giving an account of the vineyards of Spain and France. He gives an account of the "Hermitage" vines, and mode of making wine, &c.

In speaking of soils, and the wines produced therefrom he says: "I met with no vineyard producing dry wines of reputation, which was not more or less calcareous."

In the same work the system of renewal of the vine by layering, as recently advised by Doctor Schroeder, is described, and there called "provignage."

Progress of Vineyards.—In 1840, the lamented A. J. Downing, first editor of the Horticulturist, estimated the vineyards of the States at 3,000 acres. May we not now estimate them at 100,000 acres? What say our grape men?

Husmann's "Grapes and Wine."—Readers of the *Horticulturist* will remember Mr. Husmann, of Missouri, as the author of frequent articles on grape culture, in that journal, for a year or two past, remarkable for sensible suggestions and practical information. Mr. Husmann, who is a resident of Hermann and, we believe, one of the oldest wine-growers in the United States, has written a book on the Culture of Grapes and the Making of Wine, which has just been published by the Woodwards, 37 Park Row, this city.

Mr. Husmann's book is very clear, plain and practical. He gives full and explicit directions for the planting, culture and general management of a vineyard; discusses the merits of the different varieties of grapes now used here; and finally gives the most detailed and practical directions for wine-making. At the close of the book are a number of estimates or statements of the cost of planting a vineyard with different varieties of grapes. We have no doubt these tables will have practical value to any one who will bear in mind that Mr. Husmann writes in Missouri, where wood is cheap, and where probably some of the required operations can be more cheaply performed than in the eastern states. Mr Husmann writes in the spirit of a real lover of the vine, and his book contains a considerable mass of information which will interest the intelligent general reader, as well as those who think of trying the culture of the grape.

Ten years ago, Mr. Husmann tells us, there were not more than three or four thousand acres planted with vines in the United States; now he belives there are not less than two millions of acres so planted. Formerly American wine went a begging at one dollar per gallon; now it sells, as fast as made, for from two to six dollars per gallon. In 1854 not more than two thousand vines were grown and sold in Hermann; last season two millions of plants were grown and sold in that place alone, and the demand was not nearly supplied. The last and perhaps the most important sign of the rapid increase of vine culture in

this country is Mr. Husmann's book itself, which concerns itself with the grape chiefly as planted for wine, and not as a market fruit.

His objects are "to make grape-growing as easy as possible," and "to give such simple instructions about wine-making and its management as will enable any one to make a good saleable and drinkable wine, better than nine-tenths of the foreign wines which now sell for two or three dollars per bottle." He has accomplished his purpose very well indeed.—*Evening Post.*

INDIANA STATE BOARD OF AGRICULTURE.—*Secretary's Office, Indianapolis, Jan.* 6, 1866.—The State Board of Agriculture, at its January meeting 1866, adopted the following preamble and resolutions:

Whereas, it is a notorious fact that the present Commissioner of Agriculture has totally failed to satisfy the just public expectation in the administration of the Agricultural Bureau; therefore,

Resolved, That in the opinion of this Board, the interests which the Bureau of Agriculture was intended to promote, would be materially benefited by the removal of Isaac Newton, and the appointment of some competent, educated and practical Agriculturist in his stead.

Resolved, That the Secretary of this Board be, and he is hereby directed to furnish the President of the United States and the Secretary of the Interior, with copies of these resolutions.

I certify the above preamble and resolutions to be a true copy, from the record of the proceedings of the Indiana State Board of Agriculture, made this 6th day of January, 1866.

MAJ. S. FISHER, *President.*

W. H. LOOMIS, *Secretary.*

INDIANAPOLIS, Jan. 5, 1866.

THE INDIANA STATE POMOLOGICAL SOCIETY, at its January meeting, 1866, unanimously adopted the following:

Whereas, The results of the labors of Isaac Newton, the present head of the Agricultural Bureau at Washington, have fallen short of the reasonable expectations of those whose interests he represents;

Resolved, That the views of this Society be presented to the President of the United States, through our delegation in Congress, with the respectful request that a man better fitted be appointed for the place.

I. D. G. NELSON, *President.*

GEO. M. BEELER, *Secretary.*

From time to time, since the present Chief of the Agricultural Bureau has occupied his position, various agricultural journals throughout the country—as the *American Agriculturist*, *Rural New Yorker*, and other leading and influential papers, have given the public specimens of the learning and scholarship displayed by the Chief, some of which we have copied for the benefit of our readers. It is now our pleasure—and our mortification, also—to present to our readers one or two examples of his ability and qualifications for the distinguished position he occupies, which have not before been made public. We have it from a source eminently to be relied upon, that the Commissioner was engaged in writing a statement concerning sugar cane seed, and being called away from his desk for a few moments, one of the clerks made a glance at his unfinished manuscript, and found he had written it *Shuger cain sead!* And we have ourselves seen a communication, bearing the autograph of Mr. Newton, in which are declarations exhibiting ignorance upon common farm matters which, if made by a farmer boy of fifteen, would be inexcusable! And yet, such a man—one who has not the remotest conception of the duties of his office, and whose ignorance and incompetency would have caused his removal long ago, had it not been for personal friends in high places who keep him in office—is allowed to disgrace the important position which should be filled by a man of learning and good judgment, one of broad and enlightened views, and of some executive ability.

The farmers, it is true, have no representative at Washington to look out for their interests—but thanks to an independent and honest agricultural press, they are beginning to get their eyes opened to their true interests in this matter. Through the press and the State Agricultural organizations, President Johnson shall know that the farmers of the United States demand the removal of Isaac Newton from a position he has not the ability to fill. The Ohio, Indiana, and Illinois Agricultural and Horticultural Societies have passed strong resolutions demanding this. The Maine Board of Agriculture—now in session in this city—will, probably, do likewise, and their action will be followed up by New York, Wisconsin, and Michigan, by the Massachusetts Board of Agriculture, and the New England Agricultural Society. We will compel President Johnson to notice us and heed our complaints.—*Maine Farmer.*

New Brunswick, May 10, 1866.

Whereas, the New Jersey State Agricultural Society have learned that the State Board of Agriculture of the State of Massachusetts, at a meeting held on the 15th day of February last, had taken certain action as to the office of Commissioner of Agriculture in the Bureau at Washington, and by resolution passed at such meeting, earnestly requested the President of the United States to appoint some one to that office who, from his practical and scientific attainments, sound judgment and discretion, may commend himself to the respect and confidence of the intelligent farmers of the country, and wisely promote the agricultural interests of the United States. And, whereas, this Society has also learned that this action has been endorsed and seconded by many other States of this Union, Therefore, be it Resolved, that the New Jersey State Agricultural Society do most cordially approve of the action of the State Board of Massachusetts in the premises, and earnestly and respectfully commend this matter to the attention of the President of the United States.

Resolved, That the Secretary of this Society be directed to transmit a copy of these resolutions to the President of the United States, and to the Secretary of the Interior.

A true copy.

Wm. M. Ford, Recording Secretary.

Mr. Editor:

I have never yet seen an article giving instruction as to the best method of packing grapes for market in any of our agricultural or horticultural papers or magazines. Last Fall I lost two hundred pounds of Delaware grapes from bad packing, and am now indebted to Mr. Josiah Carpenter for what knowledge I have on the subject,

Thinking that among the many members of the Horticulturist family there may be some one who may have a crop of grapes to sell this fall, and who may be as ignorant of the best way of packing them as I was myself; and if there is such a one, then, Mr. Editor, this article will be worth to him what some of the articles in the Horticulturist are worth to all its subscribers—more than the cost of the magazine for a year.

First, then, a box, twelve inches long by nine wide, and three and a half or four inches deep, if carefully packed, will hold ten pounds, and is the best size for market.

Now the packing: first, select the largest and most compact clusters; take off the bottom of box and nail on the top; lay tissue, or white printing paper, to cover the inside of top; then pack in the selected clusters, turning the stems inward, taking care to get them as compact as possible, without crushing the berries. After the top is thus carefully packed, fill the box a little more than full, using the small to fill all spaces between the larger clusters; then press down carefully, using the bottom board, and nail it on. If they are well packed, there will be no movement of the grapes on shaking the box, and on opening from

the top, and removing the paper, the fruit will present a solid surface of berries, no stems to be seen. Grapes so packed are in the best possible condition to carry and to sell. If the fruit is intended to be sent any distance, then these boxes must be packed in crates holding nine boxes. The ends of the crates must be solid; the sides, bottom, and top formed of slats, two inches wide, and half inch thick; the spaces between slats about two inches in width.

What is most wanted by grape-growers who market their fruit, is a cheap box that can be given to the buyer of the fruit.—why cannot our box-makers offer us as cheap a box in proportion to size and strength, as they now make for strawberries, &c.?

Surely there would be a great demand for them, and it would constantly increase, as many who now make wine of their grapes would send them to market, could they get a box that they could afford to give away. As it is, the boxes cost from twenty-five to thirty cents each. They cannot all be collected by the commission merchants, and if they could be, they are stained, soiled, and are soon broken, so as to be useless.

Would not such a box be the best in which to send cherries and plums of extra quality to market?

Your's respectfully,
C. J. May, Warsaw, Illinois.

Office of South Shore Wine Co.,
North East, Pa, April 3, 1866.

Messrs. Editors:

Gentlemen—I was quite amused at the remarks of your correspondent in the April number, regarding box or "basket layers" for immediate fruiting.

Early fruiting in vine or tree is very desirable, but to produce a good vineyard or orchard in much less time than is ordinarily required to bring vigorous trees taken from the nursery at four or five years of age, or well-grown hardy vines of one year's growth, into bearing, would, in my judgment, be a slight innovation upon the laws of vegetable physiology.

Your correspondent is not the only one who has been sadly disappointed in their expectations of *very* early returns for considerable sums invested in basket layers.—Some of these disappointed amateurs are doubtless less inclined than your correspondent to publish their folly, or to admit that they have been made the victims of so simple a sell, and yet he doubtless discovers the true moral courage in his endeavors to save others from being so cruelly humbugged.

It certainly is your duty, Messrs. Editors, "as much as in you lies," to protect the uninformed and inexperienced undertakers in horticulture, and to save them from the devices of crafty speculators, since it is found that there are some such to be encountered, even in this sacred calling. Nor are editors of horticultural journals inclined to neglect this weighty obligation, as their readers can abundantly testify; and certainly this service has not been overlooked by the Editors of the Horticulturist.

The writer says he "has suffered some."

Is any one curious to know just how much he has suffered? I think I can determine the sum, or very nearly. A good, strong, well-grown yearling plant can be grown for about ten cents; and as the cutting or bud, except of the "new and rare" sorts, can be obtained for about half a cent, such vines ought to sell for something less than twenty cents; and, as this is the true and most valuable vine for vineyard or garden, I am led to conclude that your correspondent is out of pocket about five dollars and eighty cents, besides express charges, which would range from one to four dollars, according to distance. So, then, I do not hesitate to affirm that this earnest seeker for "an early fruiting vine" should have had, or might have procured for the net cost of his "promising box," or "basket layer," from ten to fifty (according to the variety) better vines than the one he has been so patiently nursing.

From an experience of more than twenty years, during which time I have grown some millions of grape vines, one hundred thousand of which I have fruited in my own vineyards, I am fully able to demonstrate that a well-grown one-year-old vine, produced from a single bud in *open culture* (open ground) is the best and most valuable plant that can be grown.

WM. GRIFFITH, North East, Pa.

WE have received from Wm. Griffith, Esq., of North East Penn., samples of six varieties of native vines, viz., Concord, Hartford Prolific, Diana, Delaware, Isabella, and Catawba, all grown from single eyes in the open ground. By some peculiar mode of his own, (which we hope he will divulge for the benefit of grape growers) Mr. Griffith is able to produce strong, well rooted vines of the Delaware from single eyes, planted at once in the open ground. We can commend the quality of the vines, which are planted in our own garden, and are making a most vigorous growth.

BLACK HAMBURGH GRAPES.—We are indebted to John Ellis, Esq., of Fox Meadow Garden, for a fine bunch of Hamburghs, the produce of vines that have been hard forced for eleven years. The color, flavor, and general appearance of the fruit leaves nothing to be desired.

HEYL'S PATENT BINDING TAGS.—This is a very desirable article for those who wish to bind their own magazines as they are received, and thus preserve them from loss or mutilation. A box of tags with punch and binding strings sent post paid for $1.00 from this office.

DARBY'S PROPHYLACTIC FLUID.—We have used this article, and are well acquainted with the inventor and proprietors, and fully believe that it possesses all the qualities which are set forth in the advertisement, and which render it desirable that it should be in every family

BOOKS, &c., RECEIVED.

DESIGNS FOR STREET FRONTS, SUBURBAN HOUSES AND COTTAGES.—Price $10—Cummings & Miller Architects, Troy, New York. A. J. Bicknell, General Agent, Troy, New York.

A large work, 11 by 14 inches in size, containing 382 designs and 714 illustrations, of the various features which go to make up the architecture of buildings, as Cornices, Doorways, Porches, Windows, Verandahs, Railings, Stairs, and French Roofs, straight and curved, and all styles of Modern Finish, &c.

It delineates many designs of each of the above in great variety, from the cheapest to the most elaborate; new in their character, and such as avoid the many defects which mar much of our modern architecture. These designs are accompanied by Working Drawings, made on so large a scale as to render their construction obvious to any workman, and so distinct that they can be readily executed without any doubt as to their effect. These features or details are again given in numerous elevations, showing their effect when combined in buildings of various classes required in this country. (See our book list.)

ELEMENTS OF INTELLECTUAL PHILOSOPHY. By Rev. Joseph Alden, D. D., LL. D., Late President of Jefferson College. New York: D. Appleton & Co. 1866.

Unlike many text books in Mental Philosophy, this book is not a mere recapitulation of the views of previous writers. It is thoroughly original in plan and purpose, and might be properly called an application of common sense to philosophy. Its aim is to train the student to habits of clear and accurate thinking, and though designed merely for use in schools and colleges, it can be used to advantage by those who have not passed through a course of college instruction. The author has expressed himself with great clearness and simplicity, and has produced an excellent system of mental gymnastics.